



# Ssc Cgl Tier I Previous Year Question Paper Overview

Here, you can solve all the questions asked in Ssc Cgl Tier I Previous Year Question Paper on 2020-03-05 in the Morning exam. The detailed solutions are also provided for every previous year question and some of these questions can be asked again in your Ssc Cgl Tier I exam. There are 100 questions in the exam and 60 minutes are provided for the Ssc Cgl Tier I exam. The Cutoff of the exam was 140 marks hence you should try to score at least 150 marks.

## Ssc Cgl Tier I Previous Year Question Paper : Questions and Solutions

### Comprehension :

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank. A (1) \_\_\_\_\_ of trucks carrying soldiers was coming down the mountain road. The trucks (2) \_\_\_\_\_ slowly as there had been heavy snowfall in that area. Suddenly, with a (3) \_\_\_\_\_ a huge tree on the hill side fell bringing along with it boulders and mud. (4) \_\_\_\_\_, the driver of the first truck stopped in time. The soldiers got down and started (5) \_\_\_\_\_ the road.

### Question 1 :

Select the most appropriate option to fill in blank number (5).

Difficulty : Moderate

Average Time : 65 Seconds

### Options :

1. moving
2. changing
3. altering
4. clearing

### Solution :

The correct answer is option 4 i.e. **clearing**.

### Let's have a look at the meaning of the given options:-

1. **moving**- causing strong feelings, especially of sadness.
2. **changing**- to become different or to make somebody/something different.



**altering**- to make something different in some way, but without changing it completely; to become different.

4. **clearing**- a small area without trees in the middle of a wood or forest.

Meaningfully the chosen option will suit the blank.

**Hence, the chosen option will be correct.**

**Question 2 :**

Select the word, which means the same as the group of words given. One who loves his country

Difficulty : Moderate

Average Time : 61 Seconds

**Options :**

1. Conspirator
2. Traitor
3. Collaborator
4. Patriot

**Solution :**

The correct answer is option 4 i.e. **Patriot**.

**Let's have a look at the meaning of the given options-**

1. **Conspirator**- a member of a group of people who are planning to do something bad or illegal.
2. **Traitor**- a person who is not loyal to his/her country, friends, etc.
3. **Collaborator**- someone that you work with to produce a piece of work, especially a book or some research.
4. **Patriot**- a person who loves his or her country and is ready to boldly support and defend it.

**As the chosen option expresses the meaning of the given group of words it will be the correct answer.**

**Question 3 :**

Select the SYNONYM of the given word. DEAR

Difficulty : Moderate

Average Time : 64 Seconds

**Options :**

1. Expensive
2. Sober
3. Gentle



**Mild**

**Solution :**

The correct answer is **Option 1 i.e. Expensive.**

**Let's have a look at the meaning of the given options-**

1. **Dear**- at a high cost; expensive.
2. **Expensive**- costing a lot of money.
3. **Sober**- serious, sensible, and solemn.
4. **Gentle**- (used about people) kind and calm; touching or treating people or things in a careful way so that they are not hurt.
5. **Mild**- not strong; not very bad.

**As the chosen option expresses the best meaning of the given word it will be the correct answer.**

**Question 4 :**

Select the **ANTONYM** of the given word. **DEXTERITY**

**Difficulty : Moderate**

**Average Time : 60 Seconds**

**Options :**

1. **Skill**
2. **Ignorance**
3. **Mastery**
4. **Agility**

**Solution :**

The correct answer is option 2 i.e. **Ignorance.**

**Let's have a look at the meaning of the given options-**

1. **Skill**- the ability to do something well, especially because of training, practice, etc.
2. **Dexterity**- skill at doing things, especially with your hands.
3. **Ignorance**- a lack of information or knowledge.
4. **Mastery**- great skill at doing something.
5. **Agility**- the power of moving quickly and easily; nimbleness.

**As the chosen option expresses the opposite meaning of the given word it will be the correct answer.**

**Question 5 :**



Select the ANTONYM of the given word. DIVIDE

Difficulty : Moderate

Average Time : 59 Seconds

Options :

1. Split
2. Unite
3. Break
4. Engulf

Solution :

The correct answer is option 2 i.e. **Unite**.

Let's have a look at the meaning of the given options-

1. **Split**- to divide or separate from end to end or into layers.
2. **Divide**- to separate into two or more parts or pieces She divided the pie into eight pieces.
3. **Unite**- to join together and act in agreement; to make this happen.
4. **Break**- to separate, or make something separate, into two or more pieces.
5. **Engulf**- to cover or surround somebody/something completely.

As the chosen option expresses the opposite meaning of the given word it will be the correct answer.

Question 6 :

Select the most appropriate word to fill in the blank. He tried to \_\_\_\_\_ my ring.

Difficulty : Moderate

Average Time : 65 Seconds

Options :

1. steal
2. stile
3. still
4. steel

Solution :

The correct answer is option 1 i.e. **steal**.

Let's have a look at the meaning of the given options:-



1. **steal**- to take something from a person, shop, etc. without permission and without intending to return it or pay for it.
2. **stile**- an arrangement of steps that allows people but not animals to climb over a fence or wall.
3. **still**- continuing until now or until the time you are talking about and not finishing.
4. **steel**- a very strong metal that is made from iron mixed with another substance (carbon). Steel is used for making knives, tools, machines, etc.

In the given statement we need a verb and only the chosen option is a verb hence, it will be our correct choice.

The correct sentence will be-

He tried to **steal** my ring.

### Question 7 :

Given below are four jumbled sentences. Select the option that gives their correct order. A. He is a gifted volleyball player. B. But nowadays he does not play international matches. C. It is because he had an accident last year. D. Sanjay is my best friend.

Difficulty : Moderate

Average Time : 84 Seconds

### Options :

1. DCAB
2. ABCD
3. DABC
4. CDBA

### Solution :

The correct answer is option 3 i.e. **DABC**.

- **Statement D** is independent and introduces the character of the paragraph "**Sanjay**" hence, it will be the opening statement.
- **Statement A** starts with the pronoun "**He**" that is used for the noun "**Sanjay**" hence, A will follow D.
- **Statement C** concludes the paragraph hence, it will come at the end of the arrangement.
- Finally, B will come before the statement **C**.
- Now we have the final arrangement i.e. **DABC**.

The chosen option is the same as the final arrangement hence, it will be correct.

### Some common rules that help while solving the Para Jumbles:-

1. Read the paragraph **carefully** and try to **comprehend the idea or theme of the paragraph** and **eliminate the irrelevant options**.

- Try to identify the opening (**Independent statement**) and closing statement (**Concluding statement**).
- Try to **identify** the **mandatory pairs**. Two sentences can be connected through various connectors.
  - If a statement starts with **Pronoun**, find **the noun** for which the pronoun is used, both the statements containing **noun** and **pronoun** will form a pair respectively.

**Question 8 :**

In the sentence identify the segment which contains the grammatical error. My brother, who live in Delhi, has written me a letter.

Difficulty : Moderate

Average Time : 100 Seconds

**Options :**

- has written
- me a letter
- who live in Delhi
- My brother

**Solution :**

The correct answer is option 3 i.e. **who live in Delhi**.

- The error lies in **part 3** of the statement because of the wrong use of "**Subject-verb agreement**".
- We need to replace "**Live**" with "**Lives**" for making the statement grammatically correct.

**Grammatical Concept:-**

- In the case of a relative pronoun, we need to use the verb according to the antecedent used before it.
- In the given statement antecedent is "**Brother**" which is singular hence, we need to use a singular verb here.
- The chosen option contains the **ERROR** hence, it will be the correct answer.

The correct sentence will be-

My brother, **who lives in Delhi**, has written me a letter.

**Question 9 :**

The given table represents the exports (in Rs.crores) of four items A, B, C and D over a period of six years. Study the table and answer the question that follows. Item A B C D Year 2010 240 128 180 214 2011 250 134 244 282 2012 225 138 230 247 2013 370 169 340 224 2014 425 182 300 309 2015 400 209 306 275 What is the ratio of the total exports of item A in 2014 and 2015 to the total exports of item C in 2011 and 2015?

Difficulty : Moderate

Average Time : 87 Seconds

**Options :**



3 : 2

2. 4 : 3

3. 5 : 4

4. 7 : 5

**Solution :**

The correct answer is **option 1** i.e **3 : 2**

Export of item A in 2014 = Rs. 425 crores

Export of item A in 2015 = Rs. 400 crores

Total exports of A in 2014 & 2015 = 425 + 400 = Rs. 825 crores

Export of item C in 2011 = Rs. 244 crores

Export of item C in 2015 = Rs. 306 crores

Total exports of C in 2011 & 2015 = 244 + 306 = Rs. 550 crores

Required ratio = 825 / 550 = 3 / 2

**Question 10 :**

Select the correct passive form of the given sentence. They offered me a chair.

Difficulty : Moderate

Average Time : 50 Seconds

**Options :**

1. A chair is offered to me by them.
2. A chair was being offered to me.
3. I was offered a chair by them.
4. I offered a chair to them.

**Solution :**

The correct answer is option 3 i.e. **I was offered a chair by them.**

**Active voice-** Subject + v2 + object + other words.

**Passive voice** - Object + was/were + v3 + by + subject + other words.

**As the chosen option follows this structure it will be correct.**



## Question 11 :

Select the most appropriate word to fill in the blank. I like both tea and coffee but prefer the \_\_\_\_\_.

Difficulty : Moderate

Average Time : 51 Seconds

### Options :

1. least
2. latter
3. last
4. later

### Solution :

The correct answer is option 2 i.e. **latter**.

- **Latter**- used to show the second things of the two.
- The terms **former** and **latter** are words used to distinguish between two things. **Former** directs us to the first of these two things, and **latter** directs us to the second (**or** last) of them. Do not use **former or latter** when you are writing about more than two things. ... It is a relative of our modern word **later**.
- Only the chosen option is suitable for this statement as all others are irrelevant.
- The chosen option follows the given hence, it will improve the statement correctly.

The correct sentence will be-

*I like both tea and coffee but prefer the **latter**.*

## Question 12 :

Select the correct indirect form of the given sentence. "What a good idea!", Seema remarked.

Difficulty : Moderate

Average Time : 74 Seconds

### Options :

1. Seema said what a good idea it is.
2. Seema told what an idea!
3. Seema exclaimed that it was a very good idea.
4. Seema exclaimed that the idea is good.

### Solution :

The correct answer is option 3 i.e. **Seema exclaimed that it was a very good idea.**





As the reported speech is in "**Exclamatory sentence**" we need to make changes according to this.

- There will be a change in the reporting verb and it will be changed into "**Exclaimed**".
- The inverted comma will be changed into "**That**".
- The tense of the reported speech will be changed into "**Simple Past Tense**".
- The reported speech will be kept in the assertive structure. ( **It + be + noun phrase**).

**As all the rules are followed by the chosen option it will be correct.**

**Question 13 :**

Select the most appropriate meaning of the given idiom A close-fisted person

Difficulty : Moderate

Average Time : 69 Seconds

**Options :**

1. A kind person
2. A strong person
3. A cruel person
4. A miserly person

**Solution :**

The correct answer is option 4 i.e. **A miserly person.**

The meaning of the given idiom is-

**A close-fisted person-** not willing to spend or give much money; mean; stingy.

**As the meaning of the given idiom is the same as the chosen option it will be correct.**

**Question 14 :**

In the sentence identify the segment which contains the grammatical error. Modern man is completely engross in the mad pursuit of material pleasures and luxuries.

Difficulty : Moderate

Average Time : 49 Seconds

**Options :**

1. Modern man is
2. material pleasures and luxuries
3. mad pursuit of
4. completely engross

**Solution :**

The correct answer is option 4 i.e. **completely engross**.

1. The error lies in **part 4** of the statement because of the wrong use of "**Adjective**".
2. We need to replace "**Engross**" with "**Engrossed**" for making the statement grammatically correct.

**Grammatical Concept:-**

- An adverb is followed by the adjective "**adverb + adjective**".
- In the given statement "**completely**" is an adverb hence, we need to write "**Engross**" in adjective form.
- As the past particle form of a verb work as an adjective, it will be correct here.
- "**Engross**" will be replaced with "**Engrossed**"
- The chosen option contains the **ERROR** hence, it will be the correct answer.

The correct sentence will be-

Modern man is **completely engrossed** in the mad pursuit of material pleasures and luxuries.

**Question 15 :**

Select the most appropriate meaning of the given idiom A bed of roses

Difficulty : Moderate

Average Time : 82 Seconds

**Options :**

1. A difficult path
2. An easy and happy situation
3. A pleasant perfume
4. A valley full of flowers

**Solution :**

The correct answer is option 1 i.e. **An easy and happy situation**.

The meaning of the given idiom is-

**A bed of roses**- used in reference to a situation or activity that is comfortable or easy.

**As the meaning of the given idiom is the same as the chosen option it will be correct.**

**Comprehension :**

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank. A (1) \_\_\_\_\_ of trucks carrying soldiers was coming down the mountain road. The trucks (2) \_\_\_\_\_ slowly as there had been heavy snowfall in that area. Suddenly, with a (3) \_\_\_\_\_ a huge



tree on the hill side fell bringing along with it boulders and mud. (4) \_\_\_\_\_, the driver of the first truck stopped in time. The soldiers got down and started (5) \_\_\_\_\_ the road.

**Question 16 :**

Select the most appropriate option to fill in blank number (1).

Difficulty : Moderate

Average Time : 71 Seconds

**Options :**

1. bevy
2. convoy
3. flock
4. crew

**Solution :**

The correct answer is option 2 i.e. **convoy**.

- A **bevy** of girls.
- A **convoy** of trucks.
- A **flock** of sheep.
- A **crew** of members.

As "**Convoy**" is followed by "**trucks**" the chosen option will be correct here.

**Comprehension :**

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank. A (1)\_\_\_\_\_ of trucks carrying soldiers was coming down the mountain road. The trucks (2) \_\_\_\_\_ slowly as there had been heavy snowfall in that area. Suddenly, with a (3) \_\_\_\_\_ a huge tree on the hill side fell bringing along with it boulders and mud. (4) \_\_\_\_\_, the driver of the first truck stopped in time. The soldiers got down and started (5) \_\_\_\_\_ the road.

**Question 17 :**

Select the most appropriate option to fill in blank number (2).

Difficulty : Moderate

Average Time : 68 Seconds

**Options :**

1. were moving
2. has moved



was moving

4. are moving

### Solution :

The correct answer is option 1 i.e. **were moving**.

- The given paragraph is in the **Past Tense** hence, "**Past Tense**" will be used.
- As the subject is **plural** we need to use a **plural** verb here.

**The chosen option follows both the rules hence, it will be correct.**

### Comprehension :

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank. A (1) \_\_\_\_\_ of trucks carrying soldiers was coming down the mountain road. The trucks (2) \_\_\_\_\_ slowly as there had been heavy snowfall in that area. Suddenly, with a (3) \_\_\_\_\_ a huge tree on the hill side fell bringing along with it boulders and mud. (4) \_\_\_\_\_, the driver of the first truck stopped in time. The soldiers got down and started (5) \_\_\_\_\_ the road.

### Question 18 :

Select the most appropriate option to fill in blank number (3).

**Difficulty : Moderate**

**Average Time : 70 Seconds**

### Options :

1. buzz
2. crash
3. splash
4. scream

### Solution :

The correct answer is option 2 i.e. **crash**.

**Let's have a look at the meaning of the given options:-**

- **buzz**- to make the sound that bees, etc. make when flying.
- **splash**- (used about a liquid) to fall or to make liquid fall noisily or fly in drops onto a person or thing.
- **scream**- to cry out loudly in a high voice because you are afraid, excited, angry, in pain, etc.
- **crash**- to have an accident in a vehicle; to drive a vehicle into something.

Only the meaning of the chosen option is related to a "vehicle" hence, it will suit the blank.

Hence, the chosen option will be correct here.

**Comprehension :**

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank. A (1) \_\_\_\_\_ of trucks carrying soldiers was coming down the mountain road. The trucks (2) \_\_\_\_\_ slowly as there had been heavy snowfall in that area. Suddenly, with a (3) \_\_\_\_\_ a huge tree on the hill side fell bringing along with it boulders and mud. (4) \_\_\_\_\_, the driver of the first truck stopped in time. The soldiers got down and started (5) \_\_\_\_\_ the road.

**Question 19 :**

Select the most appropriate option to fill in blank number (4).

Difficulty : Moderate

Average Time : 90 Seconds

**Options :**

1. Magically
2. Fortunately
3. Similarly
4. Logically

**Solution :**

The correct answer is option 2 i.e. **Fortunately**.

**Let's have a look at the meaning of the given options:-**

1. **Magically**- a way that uses or seems to use magic.
2. **Fortunately**- happening because of good luck.
3. **Similarly**- in a way that shows a general but not exact resemblance.
4. **Logically**- in a way that uses reason.

The statement is expressing that we were saved in time that shows luck hence, the chosen option suit the blank.

Hence, the chosen option will be correct here.

**Question 20 :**

Select the INCORRECTLY spelt word.

Difficulty : Moderate

Average Time : 57 Seconds

**Options :**

1. Champion



Chouffer

3. Charisma
4. Choir

**Solution :**

The correct answer is option 2 i.e. **Chouffer**.

**Let's have a look at the meaning of the given options-**

1. **Champion**- a person, team, etc. that has won a competition.
2. **Chauffeur**- a person whose job is to drive a car for somebody else.
3. **Charisma**- a powerful personal quality that some people have to attract and influence other people.
4. **Choir**- a group of people who sing together in churches, schools, etc.

**As the chosen option is an incorrectly spelt word it will be the correct answer.**

**Question 21 :**

Select the INCORRECTLY spelt word.

Difficulty : Moderate

Average Time : 58 Seconds

**Options :**

1. Cremator
2. Creator
3. Cricketer
4. Cracker

**Solution :**

The correct answer is option 2 i.e. **Creator**.

**Let's have a look at the meaning of the given options-**

1. **Cremator**- one that cremates corpses.
2. **Creator**- a person who makes or produces something new.
3. **Cricketer**- a person who plays cricket.
4. **Cracker**- a thin dry biscuit that is often eaten with cheese.

**As the chosen option is an incorrectly spelt word it will be the correct answer.**

**Question 22 :**

Select the SYNONYM of the given word. MAINTAIN

Difficulty : Moderate

Average Time : 53 Seconds

Options :

1. Gain
2. Convey
3. Retain
4. Destroy

Solution :

The correct answer is **Option 3 i.e. Retain.**

Let's have a look at the meaning of the given options-

1. **Maintain-** to continue to have; to keep in existence, or not allow to become less.
2. **Retain-** to keep or continue to have something; not to lose.
3. **Gain-** to obtain or win something, especially something that you need or want.
4. **Convey-** to make ideas, thoughts, feelings, etc. known to somebody.
5. **Destroy-** to damage something so badly that it can no longer be used or no longer exists.

As the chosen option expresses the best meaning of the given word it will be the correct answer.

Question 23 :

Given below are four jumbled sentences. Select the option that gives their correct order. A. Aesop was one of them who lived in Greece about 2500 years ago. B. He told many interesting stories to the people. C. There were many talented people in ancient Greece. D. Although he was ugly, he had a very clever brain.

Difficulty : Moderate

Average Time : 77 Seconds

Options :

1. BDAC
2. BADC
3. CADB
4. CDBA

Solution :

The correct answer is option 3 i.e. **CADB.**



**Statement C** is independent and introduces the theme of the paragraph "**Talented People**" hence, it will be the opening statement.

- **Statement A** contains the pronoun "**Them**" that is used for the noun "Talented People" hence, A will follow C.
- **Statement D and B** will come respectively as they continuously add information to the paragraph.
- Now we have the final arrangement i.e. **CADB**.

The chosen option is the same as the final arrangement hence, it will be correct.

### Some common rules that help while solving the Para Jumbles:-

1. Read the paragraph **carefully** and try to **comprehend the idea or theme of the paragraph** and **eliminate the irrelevant options**.
2. Try to identify the opening (**Independent statement**) and closing statement (**Concluding statement**).
3. Try to **identify the mandatory pairs**. Two sentences can be connected through various connectors.
4. If a statement starts with **Pronoun**, find **the noun** for which the pronoun is used, both the statements containing **noun** and **pronoun** will form a pair respectively.

#### Question 24 :

Select the word which means the same as the group of words given. Incapable of paying debts

Difficulty : Moderate

Average Time : 95 Seconds

#### Options :

1. **Insolvent**
2. **Obsolete**
3. **Corrupt**
4. **Extravagant**

#### Solution :

The correct answer is option 1 i.e. **Insolvent**.

#### Let's have a look at the meaning of the given options-

1. **Insolvent**- not having enough money to pay what you owe.
2. **Obsolete**- no longer useful because something better has been invented.
3. **Corrupt**- morally degenerate and perverted.
4. **Extravagant**- spending or costing too much money

As the chosen option expresses the meaning of the given group of words it will be the correct answer.

#### Question 25 :





Select the most appropriate word to substitute the underlined word of the given sentence. If no substitution is required, select 'No improvement'. The diver dive in the pool from a great height.

Difficulty : Moderate

Average Time : 61 Seconds

Options :

1. dived at the pool
2. No improvement
3. dived into the pool
4. dives to a pool

Solution :

The correct answer is option 3 i.e. **dived into the pool**.

- If something goes inside with a velocity then we use the preposition "**Into**" for that.
- In the given statement a diver is going inside a pool with a velocity hence, "**use**" of "**Into**" will be correct here.
- The chosen option follows the given hence, it will improve the statement correctly.

The correct sentence will be-

The diver **dived into the pool** from a great height.

Question 26 :

Select the most appropriate segment to substitute the underlined segment of the given sentence. If no substitution is required, select 'No substitution'. Hardly had he sit on the chair than it broke.

Difficulty : Moderate

Average Time : 65 Seconds

Options :

1. sat on the chair when
2. sat onto a chair then
3. sit in the chair when
4. No substitution

Solution :

The correct answer is option 1 i.e. **sat on the chair when**.

- "**Hardly/Scarcly** \_\_\_\_\_ **when**\_" is the correct pair of the conjunction.
- In the given statement, the first part contains the "**Hardly**" hence, we need to use "**when**" in the second part for

maintaining the sequence.

- The second part is in the past tense hence, the first part will be in the past tense as well.

The correct sentence will be-

Hardly had he **sat on the chair when** it broke.

### Question 27 :

D is the midpoint of side BC of ABC. Point E lies on AC such that  $CE = \frac{1}{3} AC$ , BE and AD intersect at G. What is AG/GD?

Difficulty : Moderate

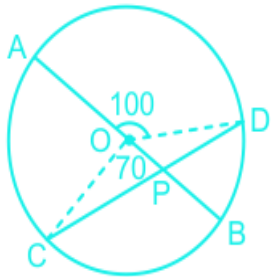
Average Time : 66 Seconds

### Options :

1. 8 : 3
2. 3 : 1
3. 5 : 2
4. 4 : 1

### Solution :

The correct answer is **option 4** i.e 4 : 1



We drew a line from D to the line AC at point F which is parallel to BE,

In both triangles CEB & CFD, by A-A similarity

$\triangle BCE \sim \triangle DCF$

So,

$$\frac{BC}{DC} = \frac{CE}{CF}$$

$$\frac{BD + DC}{DC} = \frac{CF + FE}{CF}$$

$$1 + \frac{BD}{DC} = 1 + \frac{FE}{CF}$$



As we know that  $BD = DC$  because  $D$  bisects the line  $BC$

$$FE = CF$$

$$FE/CE = 1/2 \dots\dots\dots (1)$$

Similarly in the triangle,  $ADF$  &  $AGE$ , by A-A similarity

$$(AD/AG) = (AF/AE)$$

$$(AG + GD)/AG = (AE + FE)/AE$$

$$1 + GD/AG = 1 + FE/AE$$

$$AG/GD = AE/FE$$

From (1) we would get that,

$$AG/GD = AE/(CE/2)$$

$$AG/GD = 2 \times AE/CE = 2 \times 2 : 1$$

$$AG/GD = 4 : 1$$

**Question 28 :**

If  $16a^4 + 36a^2b^2 + 81b^4 = 91$  and  $4a^2 + 9b^2 - 6ab = 13$ , then what is the value of  $3ab$ ?

**Difficulty :** Moderate

**Average Time :** 91 Seconds

**Options :**

1. 5
2.  $-(3/2)$
3.  $3/2$
4. -3

**Solution :**

The correct answer is **option 2** i.e  $-(3/2)$

We have given that,

$$4a^2 + 9b^2 - 6ab = 13$$

Squaring both sides,

$$(4a^2 + 9b^2 - 6ab)^2 = 169$$

$$16a^4 + 81b^4 + 36a^2b^2 + 2(36a^2b^2 - 24a^3b - 54ab^3) = 169$$

By putting the given value,

$$2(36a^2b^2 - 24a^3b - 54ab^3) = 169 - 91$$

$$36a^2b^2 - 24a^3b - 54ab^3 = 39$$

$$-6ab(4a^2 + 9b^2 - 6ab) = 39$$

$$-6ab = 39 / 13 = 3$$

$$3ab = -(3 / 2)$$

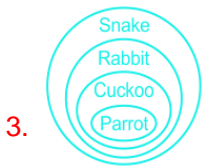
### Question 29 :

Select the figure that can replace the question mark (?) in the following series.

Difficulty : Moderate

Average Time : 70 Seconds

Options :



Solution :

The correct answer is **option 4**.

Understanding

Application



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<p>1) The number of figures increases by one at each step.</p> <p>2) The figures move in a clockwise direction.</p> <p>3) The figures move one step ahead and two steps ahead at alternate steps.</p>	<p>Hence, following this logic, the next image in the series should be option figure 3.</p>
---	---

### Question 30 :

Four positions of the same dice are shown. Select the number that will be on the face opposite to the one showing '3'.

Difficulty : Moderate

Average Time : 76 Seconds

### Options :

1. 5
2. 6
3. 2
4. 4

### Solution :

The correct answer is **option 1** i.e **5**.

Understanding



From the first dice, 3 is not opposite to 4 and 2.

From the second dice, 3 is not opposite to 2 and 6.

From the third dice, 3 is not opposite to 1 and 6.

From the fourth dice, 3 is not opposite to 1 and 4.

3 is opposite to the remaining number i.e. 5.

Hence, option 1 is the correct answer.

**Question 31 :**

In the given Venn diagram, the triangle represents students playing table tennis, the rectangle represents students playing badminton, the circle represents female students, and the pentagon represents students playing football. The numbers given in the diagram represent the number of persons in that particular category. How many female students play both table tennis and badminton?

**Difficulty : Moderate****Average Time : 66 Seconds****Options :**

1. 7
2. 9
3. 22
4. 18

**Solution :**

The correct answer is **option 1** i.e 7.

**Understanding**

The number of female students who play both table tennis and badminton Common area of circle, triangle and rectangle **7**

**Question 32 :**

Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the number-



pair that is different.

**Difficulty : Moderate**

**Average Time : 47 Seconds**

**Options :**

1. 169-197
2. 225-241
3. 121-145
4. 289-325

**Solution :**

The correct answer is **option 2** i.e **225-241**.

#### Understanding

The logic used here is:

$$169 - 197$$

$$13^2 = 169$$

$$14^2 + 1 = 197$$

**Option 2:**

$$225-241$$

$$15^2 = 225$$

$$16^2 + 1 = 256 + 1 = 257$$

Hence, option 2 is incorrect.

**Question 33 :**

The two given expressions on both the side of the '=' sign will have the same value if two numbers from either side or both side are interchanged. Select the correct numbers to be interchanged from the given options.  $3 + 5 \times 4 - 24 \div 3 = 7 \times 4 - 3 + 36 \div 6$

**Difficulty : Moderate**

**Average Time : 61 Seconds**

**Options :**

1. 5, 7



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4, 7

3. 6, 3

4. 24, 36

### Solution :

The correct answer is **option 1** i.e 5, 7.

Understanding







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Let's Check each options:

**Option 1: 5, 7**

$$3 + 5 \times 4 - 24 \div 3 = 7 \times 4 - 3 + 36 \div 6$$

$$3 + 7 \times 4 - 24 \div 3 = 5 \times 4 - 3 + 36 \div 6$$

$$3 + 7 \times 4 - 8 = 5 \times 4 - 3 + 6$$

$$3 + 28 - 8 = 20 - 3 + 6$$

$$31 - 8 = 20 + 3$$

$$23 = 23$$

**Option 2: 4, 7**

$$3 + 5 \times 4 - 24 \div 3 = 7 \times 4 - 3 + 36 \div 6$$

$$3 + 5 \times 7 - 24 \div 3 = 4 \times 7 - 3 + 36 \div 6$$

$$3 + 5 \times 7 - 8 = 4 \times 7 - 3 + 6$$

$$3 + 35 - 8 = 28 - 3 + 6$$

$$38 - 8 = 25 + 6$$

$$30 \quad 31$$

**Option 3: 6, 3**

$$3 + 5 \times 4 - 24 \div 3 = 7 \times 4 - 3 + 36 \div 6$$

$$6 + 5 \times 4 - 24 \div 6 = 7 \times 4 - 6 + 36 \div 3$$

$$6 + 5 \times 4 - 6 = 7 \times 4 - 6 + 12$$

$$6 + 20 - 6 = 28 - 6 + 12$$

$$26 - 6 = 22 + 12$$

$$20 \quad 34$$

**Option 4: 24, 36**

$$3 + 5 \times 4 - 24 \div 3 = 7 \times 4 - 3 + 36 \div 6$$

$$3 + 5 \times 4 - 36 \div 3 = 7 \times 4 - 3 + 24 \div 6$$

$$3 + 5 \times 4 - 12 = 7 \times 4 - 3 + 6$$

$$3 + 20 - 12 = 28 - 3 + 6$$

$$23 - 12 = 25 + 6$$

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**Question 34 :**

Select the number that can replace the question mark (?) in the following series. 40, 37, 43, 34, 46, ?

**Difficulty : Moderate****Average Time : 102 Seconds****Options :**

1. 31

2. 51

3. 41

4. 61

**Solution :**

The correct answer is **option 1** i.e **31**.

**Understanding**

Given series: 40, 37, 43, 34, 46, ?

$$40 - 3 = 37$$

$$37 + 6 = 43$$

$$43 - 9 = 34$$

$$34 + 12 = 46$$

$$46 - 15 = 31$$

Thus the missing term is 31.

**Question 35 :**

Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow from the statements. Statements: 1. All parrots are cuckoos. 2. All cuckoos are rabbits. 3. All rabbits are snakes. Conclusions: I. All parrots are snakes. II. All snakes are cuckoos. III. All rabbits are parrots. IV. All cuckoos are snakes.

**Difficulty : Moderate****Average Time : 61 Seconds****Options :**

1. Only conclusions I and IV follow.

All the conclusions follow.

3. Only conclusions I and II follow.

4. Only conclusions II and III follow.

**Solution :**

The correct answer is **option 1** i.e **Only conclusions I and IV follow.**

**Only conclusions I and IV follow.**

**Understanding**

The least possible Venn Diagram for the given statements is drawn below:



**Conclusions:**

I. All parrots are snakes **True** (As this can be seen from the diagram).

II. All snakes are cuckoos **False** (This is possible but not definite).

III. All rabbits are parrots **False** (This is possible but not definite).

IV. All cuckoos are snakes **True** (As this can be seen from the diagram).

Hence, **Only conclusions I and IV follow.**

**Question 36 :**

Shaan has a total of Rs.5,500 with him. He buys product 'Z' at Rs.5,000 from this sum and then sells it to another person, thus making a profit of 15% on it. With all the money he has now, he buys product 'X' and then sells it to another persons making a profit of 25% on it. What is the total money shaan has now?

Difficulty : Moderate

Average Time : 96 Seconds

Options :

1. Rs.7,187.50
2. Rs.7,815.50
3. Rs.7,812.50
4. Rs.6,325.50

Solution :

The correct answer is **option 1** i.e **Rs. 7,187.50**.

**Understanding**

Total money Shaun has = 5500

For Z products:

CP=5000

SP = 5000 + 5000 of 15% = 5750

Total money with Shaan now = 5750

For X products:

CP = 5750

SP = 5750 + 5750 of 25% = 7,187.50

Now the money left with Shaun = 7,187.50

**Question 37 :**

Four letter-clusters have been given, out of which three are alike in some manner, while one is different. Select the odd letter-cluster.

Difficulty : Moderate

Average Time : 53 Seconds

Options :

1. DFH
2. LNP
3. FHJ



TVW

**Solution :**The correct answer is **option 4** i.e **TVW**.**Understanding**

The common pattern followed here is: Every letter in the group is succeeded by its 2nd next letter in the English alphabetical series.

1. DFH:  $D + 2 = F$ ;  $F + 2 = H$ 2. LNP:  $L + 2 = N$ ;  $N + 2 = P$ 3. FHJ:  $F + 2 = H$ ;  $H + 2 = J$ **4. TVW:  $T + 2 = V$ ;  $V + 1 = W$** Hence, **TVW** is the odd one out.**Question 38 :**

Arrange the following in a logical sequence from small to big. 1. Crocodile 2. Lizard 3. Whale 4. Housefly 5. Monkey

**Difficulty : Moderate****Average Time : 58 Seconds****Options :**

1. 3, 5, 4, 1, 2

2. 4, 5, 2, 1, 3

3. 4, 3, 2, 1, 5

4. 4, 2, 5, 1, 3

**Solution :**The correct answer is **option 4** i.e **4, 2, 5, 1, 3**.**Understanding**

In this question, you need to arrange the words in a logical sequence from small to big.

So the arrangement is;

1. Housefly
2. Lizard
3. Monkey
4. Crocodile
5. Whale

**Question 39 :**

Select the option that is related to the third word in the same way as the second word is related to the first word. Ministers : Council : : Sailors : ?

Difficulty : Moderate

Average Time : 52 Seconds

**Options :**

1. Captain
2. Sea
3. Crew
4. Ship

**Solution :**

The correct answer is **option 3** i.e **Crew**.

Understanding	Application
A specialised group of ministers forms the cabinet.	Similarly, A group of sailors forms the crew. Hence, option 3 is the correct answer.

**Question 40 :**

The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following

figures. How would this paper look when unfolded?

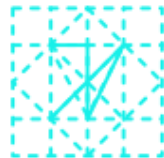
Difficulty : Moderate

Average Time : 55 Seconds

Options :

- 1.
- 2.
- 3.
- 4.

Solution :



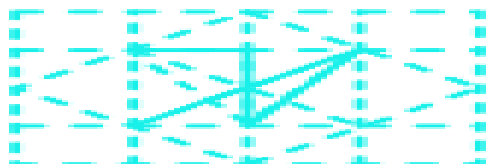
The correct answer is **option 3** i.e .

Understanding



When the paper is unfolded there will be four circles and rectangles appearing in the same manner as the first figure.

When the paper is unfolded it appears as shown below:



### Question 41 :

Study the given pattern carefully and select the number that can replace the question mark (?) in it. 10 4 14 35 15 3 5 25  
14 7 6 12 18 ? 8 16

Difficulty : Moderate

Average Time : 77 Seconds

### Options :

1. 7
2. 9
3. 8
4. 6

### Solution :

The correct answer is **option 2** i.e **9**.

Understanding

Application



In every row, (1st column x 3rd column) / 4th column = 2nd column	
<b>Row 1:</b> (10 x 14) / 35 = 4	
<b>Row 2:</b> (15 x 5) / 25 = 3	
<b>Row 3:</b> (14 x 6) / 12 = 7	
	Similarly, <b>Row 4:</b> (18 x 8) / 16 = <b>9</b>  Hence, option 2 is the correct answer.

**Question 42 :**

How many triangles are present in the given figure?

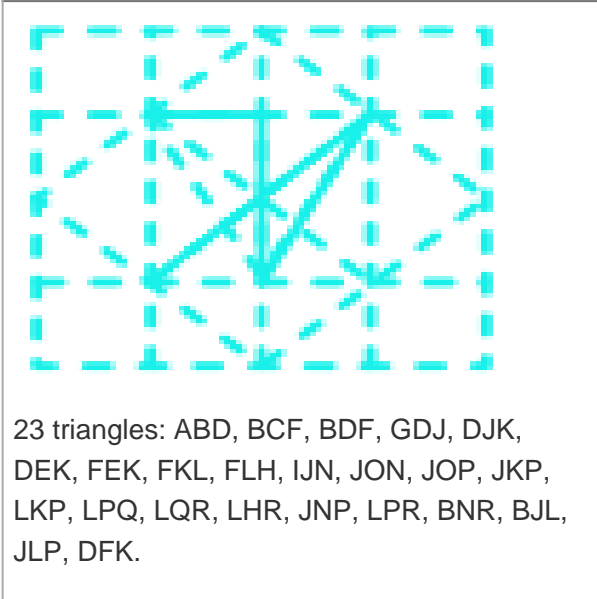
Difficulty : Moderate

Average Time : 58 Seconds

**Options :**

1. 21
2. 20
3. 22
4. 23

**Solution :**The correct answer is **option 4** i.e **23**.**Understanding**



23 triangles: ABD, BCF, BDF, GDJ, DJK, DEK, FEK, FKL, FLH, IJN, JON, JOP, JKP, LKP, LPQ, LQR, LHR, JNP, LPR, BNR, B JL, JLP, DFK.

**Question 43 :**

Which of the option figures is the exact mirror image of the given figure when the mirror is held at the right side?

Difficulty : Moderate

Average Time : 52 Seconds

**Options :**

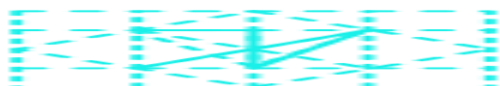
- 1.
- 2.
- 3.
- 4.

**Solution :**

The correct answer is **option 4** i.e.

Understanding

The mirror image of the question figure is shown below:



Since the mirror is placed right to the question figure, the right-hand side of the original image will be now the left-hand side of the mirror image.

**Question 44 :**

Select the option that is related to the third number in the same way as the second number is related to the first number and the sixth number is related to the fifth number.  $72 : 108 :: 84 : ? :: 102 : 153$

Difficulty : Moderate

Average Time : 83 Seconds

**Options :**

1. 135
2. 126
3. 117
4. 144

**Solution :**

The correct answer is **option 2** i.e **126**.

Understanding	Application
The logic here is; $72/108 = 2/3$ $102/153 = 2/3$ The simplest ratio should be $2/3$ .	Similarly, $84/x = 2/3$ $x = 126$ Hence, option 2 is the correct answer.

**Question 45 :**

There is a family of five members: K, L, M, N and O. Among them, there is one married couple. O is unmarried and is the brother of K. N is the sister of O. M is the only married female and the mother of N. L and O are the only males in the

group. Who is the father of K?

Difficulty : Moderate

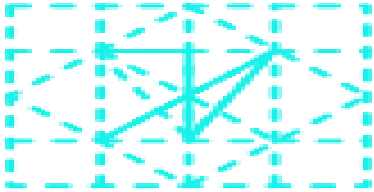
Average Time : 62 Seconds

Options :

1. L
2. O
3. K
4. M

Solution :

The correct answer is **option 1** i.e **L**.

Understanding	Application
<p>In the diagram shown;</p> <p>Square shows males, the circle shows females, vertical lines show generations, single horizontal lines show brother or sisters and double lines show a couple.</p> 	<p>Thus considering the figure, L is the father of K.</p> <p>Considering all the four options the most appropriate is option 1.</p>

**Question 46 :**

Four words have been given, out of which three are alike in some manner, while one is different. Select the odd word.

Difficulty : Moderate

Average Time : 64 Seconds

Options :

1. Plenty
2. Destitution

Indigence

4. Penury

**Solution :**

The correct answer is **option 1** i.e **Plenty**.

Understanding
Destitution, Indigence, Penury means the state of being very poor. Hence, option 2, 3 and 4 are similar to each other.  But option 1 is the antonym of the rest of the words.  Hence, option 1 is odd.

**Question 47 :**

Select the option in which the words share the same relationship as that shared by the given pair of words. Blunder : Error

**Difficulty :** Moderate

**Average Time :** 53 Seconds

**Options :**

1. Euphoria : Happiness
2. Anger : Patience
3. Speak : Hear
4. War : Peace

**Solution :**

The correct answer is **option 1** i.e **Euphoria: Happiness**.

Understanding	Application
BLUNDER and ERROR mean something done incorrectly or improperly.	Similarly, Euphoria, a feeling or state of intense excitement and happiness.

**Question 48 :**

In a certain code language, U is written as C, K is written as H, L is written as U, N is written as E, S is written as L, E is written as K, and C is written as N. how will 'KNUCKLES' be written as in that language?

**Difficulty : Moderate**

**Average Time : 59 Seconds**

**Options :**

1. HECNHULK
2. HECNHUKL
3. KECNKHUL
4. CHUECKN

**Solution :**

The correct answer is **option 2** i.e **HECNHUKL**.

Understanding	Application
The codes for the letters are given in the question;  U C K H L U N E S L E K C N	The code for the word KNUCKLES is <b>HECNHUKL</b> .  Hence, option 2 is the correct answer.

**Question 49 :**

Select the letter-cluster that can replace the question mark(?) in the following series. aYd, fTi, kOn, pJs, ?

**Difficulty : Moderate**

**Average Time : 61 Seconds**

**Options :**

1. uEw

uEx

3. VeX

4. uFw

**Solution :**

The correct answer is **option 2** i.e **uEx**.

Understanding	Application
The logic used here is; aYd, fTi a + 5 = f Y - 5 = T d + 5 = i	Similarly, pJs, <b>uEx</b> p + 5 = u J - 5 = E s + 5 = x Hence, <b>uEx</b> is the next term in the series.

**Question 50 :**

If each letter of the English alphabet is assigned an odd numerical value in increasing order, such as A = 1, B = 3 and so on, then what will be the code of HONEY?

Difficulty : Moderate

Average Time : 63 Seconds

**Options :**

1. 132725745

2. 152927947

3. 152927949

4. 132725747

**Solution :**

The correct answer is **option 3** i.e **152927949**.

Understanding	Application
---------------	-------------





The logic here is each alphabet in the word is replaced by the odd number starting from 1.

A = 1, B = 3, C = 5, D = 7  
and so on.

Code for the  
word HONEY  
is;

H = 15

O = 29

N = 27

E = 9

Y = 49

Thus, the code  
is 152927949.

**Question 51 :**

Select the option in which the numbers are related in the same way as are the numbers in the given set. (13, 65, 117)

**Difficulty : Moderate****Average Time : 57 Seconds****Options :**

1. (12, 55, 109)
2. (15, 75, 135)
3. (17, 85, 163)
4. (14, 70, 127)

**Solution :**

The correct answer is **option 2** i.e (15, 75, 135).

**Understanding**

The common pattern followed here is:

(1st no x 5) and (1st no x 9)

(13, 65, 117)

$13 \times 5 = 65$

$13 \times 9 = 117$

Option 2 follows the pattern.

**(15, 75, 135)**

$15 \times 5 = 75$

$15 \times 9 = 135$

Hence, **option 2** is the correct answer.

### Question 52 :

Select the option figure in which the given figure is embedded (rotation is NOT allowed).

Difficulty : Moderate

Average Time : 54 Seconds

Options :



4.



**Solution :**



The correct answer is **option 4** i.e .

### Understanding

The question figure is embedded in option 4 as shown below:



**Question 53 :**

Select the set of letters that when sequentially placed in the blanks of the given letter series will complete the series.  
F\_hg\_fh\_gf\_hg\_fh\_g

**Difficulty :** Moderate

**Average Time :** 74 Seconds

**Options :**

1. g, h, f, g, h, f
2. h, f, g, h, f, g
3. g, f, g, f, h, f
4. f, g, h, f, g, h

**Solution :**

The correct answer is **option 1** i.e **g, h, f, g, h, f**.

Understanding

Application

The sequence is – fghghfhfg F _hg _fh _gf _hg _fh _g We need to fill it with the help of options and then check the pattern.	The complete series is as follows: F <b>g</b> hg <b>h</b> fh <b>f</b> g / f <b>g</b> hg <b>h</b> fh <b>f</b> g Hence, <b>g, h, f, g, h, f</b> will be in blank spaces.
---	---

### Question 54 :

If the nine-digit number  $708x6y8z9$  is divisible by 99, then what is the value of  $x + y + z$  ?

Difficulty : Moderate

Average Time : 74 Seconds

### Options :

- 5
- 27
- 16
- 9

### Solution :

The correct answer is **option 3** i.e **16**

Understanding	Application
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We will test the divisibility of 9 in the given number.	<p>As 9 is a factor of 99 so we will test the divisibility of 9 in the given number.</p> <p>Digital sum = <math>7 + 0 + 8 + x + 6 + y + 8 + z + 9 = 38 + x + y + z</math></p> <p>The sum should be divisible by 9, for this</p> $x + y + z + 38 = 45 / 54 / 63$ $x + y + z = 7 / 16 / 25$ <p>The only available option is 16 i.e. our answer.</p>
---	---

**Question 55 :**

The given table represents the exports (in Rs.crores) of four items A, B, C and D over a period of six years. Study the table and answer the questions that follows. Item A B C D Year 2010 240 128 180 214 2011 250 134 244 282 2012 225 138 230 247 2013 370 169 340 224 2014 425 182 300 309 2015 400 209 306 275 The total exports of item D in 2010, 2012, and 2014 is what percentage of the total exports of all the four items in 2011 and 2012?

**Difficulty : Moderate****Average Time : 68 Seconds****Options :**

1. 46.2%
2. 45%
3. 44%
4. 44.8%

**Solution :**

The correct answer is **option 3** i.e **44%**

Total export of item D in 2010 = Rs. 214 crore

Total export of item D in 2012 = Rs. 247 crore



Total export of item D in 2014 = Rs. 309 crore

Total exports in 2010, 2012 & 2014 combined =  $214 + 247 + 309 =$  Rs. 770 crore

Total export in 2011 =  $250 + 134 + 244 + 282 =$  Rs. 910 crore

Total export in 2012 =  $225 + 138 + 230 + 247 =$  Rs. 840 crore

Rs. 1750 crore

$(770 / 1750) / 100 = 44\%$

**Question 56 :**

If  $5\sin = 4$ , then the value of  $(\sec + 4\cot)/(4\tan - 5\cos)$  is:

**Difficulty : Moderate**

**Average Time : 48 Seconds**

**Options :**

1. 2
2.  $3/2$
3.  $5/4$
4. 1

**Solution :**

The correct answer is **option 1** i.e 2

Understanding	Application
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We will use the basic principles of trigonometry to put the values in the given sum.

Given that,  $5\sin = 4$   
 $\sin = 4 / 5$

By the given diagram we could put values in the sum as

$$(5 / 3 + 4 \times (3 / 4)) / (4 \times (4 / 3) - 5 \times (3 / 5))$$

$$(14 / 3) / (7 / 3)$$

2

**Question 57 :**

The compound interest on a certain sum at p.a. for 3 years is Rs.6,350. What will be the simple interest on the same sum at the same rate for years?

Difficulty : Moderate

Average Time : 62 Seconds

**Options :**

1. Rs.10,200
2. Rs.7,620
3. Rs.11,400
4. Rs.9,600

**Solution :**

The correct answer is **option 1** i.e **Rs.10,200**

Understanding	Application
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We will use concepts of compound interest and simple interest in the following question.

$$CI = P(1 + R / 100)^n - P$$

$$6350 = P(1 + 50 / 300)^3 - P$$

$$P = 6350 \times 216 / 127$$

$$P = 10800$$

We know that,

$$SI = P \times r \times t / 100$$

$$SI = 10800 \times (50 / 3) \times (17 / 3) / 100$$

$$\text{Rs. } 10200$$

**Question 58 :**

The given represents the exports (in Rs.crores) of four items A, B, C and D over a period of six years. Study the table and answer the question that follows. Item A B C D Year 2010 240 128 180 214 2011 250 134 244 282 2012 225 138 230 247 2013 370 169 340 224 2014 425 182 300 309 2015 400 209 306 275 In which year, the exports of item D were 1.4 times the average exports of item B during six years?

**Difficulty : Moderate****Average Time : 69 Seconds****Options :**

1. 2011
2. 2012
3. 2014
4. 2013

**Solution :**

The correct answer is **option 4** i.e **2013**

We could check each year one by one or we could try a trick.



The export of year D was 1.4 times which is  $0.2 \times 7$ , we can divide the export of D of each year to eliminate the options.

The only year 2013 completely divided by 1.4 which is our answer.

**Question 59 :**

If  $x^2 - 2(5x) + 1 = 0$ , then what is the value of  $x^5 + (1/x^5)$ ?

**Difficulty : Moderate****Average Time : 45 Seconds****Options :**

1. 6125
2. 4085
3. 6105
4. 4065

**Solution :**

The correct answer is **option 3** i.e **6105**

$$x^2 - 2(5x) + 1 = 0$$

$$(x - 5 + 4)(x - 5 - 4)$$

$$x + 1/x = 5 + 4 + 5 - 4$$

$$25$$

$$x^2 + 1/x^2 = (x + 1/x)^2 - 2$$

$$x^2 + 1/x^2 = 20 - 2 = 18$$

$$x^3 + 1/x^3 = (x + 1/x)^3 - 3(x + 1/x)$$

$$405 - 3 \times 25$$

$$345$$

$$x^5 + 1/x^5 = (x^2 + 1/x^2)(x^3 + 1/x^3) - (x + 1/x)$$

$$18 \times 345 - 25$$

$$6105$$

**Question 60 :**

The value of  $(\sec^6 \tan^6 - 3\sec^2 \tan^2 + 1)/(\cos^4 - \sin^4 + 2\sin^2 + 2)$  is:



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Difficulty : Moderate

Average Time : 69 Seconds

Options :

1. 1
2.  $1/2$
3.  $2/3$
4.  $3/4$

Solution :

The correct answer is **option 3** i.e  $2/3$

Understanding	Application
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We will use trigonometric identities to simplify the given function.

We know that,

$$\sec^2 - \tan^2 = 1$$

Raising power to 3 on both sides.

$$(\sec^2 - \tan^2)^3 = 1$$

$$\sec^6 - \tan^6 - 3\sec^2 \times \tan^2(\sec^2 - \tan^2) = 1$$

$$\sec^6 \tan^6 - 3\sec^2 \tan^2 + 1 = 1 + 1 = 2$$

Which is numerator of the function.

$$\cos^4 - \sin^4 = (\cos^2 - \sin^2)(\cos^2 + \sin^2) = \cos^2 - \sin^2$$

$$\cos^2 - \sin^2 = 1 - \sin^2 - \sin^2 = 1 - 2\sin^2$$

Our denominator will be as

$$\cos^4 - \sin^4 + 2\sin^2 + 2 = 1 - 2\sin^2 + 2\sin^2 + 2 = 3$$

The function will be  $\frac{2}{3}$

### Question 61 :

If  $P = \frac{(x^3 + y^3)}{(x - y)^2 + 3xy}$ ,  $Q = \frac{(x + y)^2 - 3xy}{(x^3 - y^3)}$  and  $R = \frac{(x + y)^2 + (x - y)^2}{(x^2 - y^2)}$ , then what is the value of  $(P \div Q) \times R$  ?

Difficulty : Moderate

Average Time : 104 Seconds

Options :



$$2xy$$

$$2. 2(x^2 + y^2)$$

$$3. x^2 + y^2$$

$$4. 4xy$$

**Solution :**

The correct answer is **option 2** i.e  $2(x^2 + y^2)$

We will simplify each term one by one.

$$P = (x^3 + y^3) / ((x - y)^2 + 3xy) = (x + y)(x^2 + y^2 - xy) / x^2 + y^2 + xy$$

$$Q = ((x + y)^2 - 3xy) / (x^3 - y^3) = x^2 + y^2 - xy / (x - y)(x^2 + y^2 + xy)$$

$$R = ((x + y)^2 + (x - y)^2) / (x^2 - y^2) = 2(x^2 + y^2) / (x^2 - y^2)$$

$$P / Q = [(x + y)(x^2 + y^2 - xy) / x^2 + y^2 + xy] / [x^2 + y^2 - xy / (x - y)(x^2 + y^2 + xy)]$$

$$(x + y)(x - y) = x^2 - y^2$$

$$(P / Q) \times R = (x^2 - y^2) \times 2(x^2 + y^2) / (x^2 - y^2) = 2(x^2 + y^2)$$

**Question 62 :**

The value of is:

**Difficulty : Moderate**

**Average Time : 98 Seconds**

**Options :**

$$1. 10/21$$

$$2. 2\frac{6}{7}$$

$$3. 2\frac{6}{7}$$

$$4. 2\frac{6}{7}$$

**Solution :**

The correct answer is **option 3** i.e  $2\frac{6}{7}$

Understanding	Application
<p>We would apply the BODMAS rule in the given question to solve the question.</p>	<p> <math display="block">\left( \left( \frac{11}{3} \div \frac{11}{30} \text{ of } \frac{2}{3} - \frac{1}{4} \text{ of } \frac{5}{2} \div \frac{3}{5} \times \frac{24}{5} \right) / \frac{2}{5} \text{ of } \frac{15}{2} \div \frac{3}{4} - \frac{3}{4} \times \frac{3}{2} \div \frac{9}{4} \right)</math> <math display="block">\left( \left( \frac{11}{3} \div \frac{11}{45} - \frac{5}{8} \div \frac{3}{5} \times \frac{24}{5} \right) / \frac{3}{4} - \frac{3}{4} \times \frac{3}{2} \div \frac{9}{4} \right)</math> <math display="block">\left( \frac{15 - 5}{4} - \frac{1}{2} \right)</math> <math display="block">\frac{20}{7}</math> <math display="block">2\frac{6}{7}</math> </p>

**Question 63 :**

The diagonal of a square A is  $(a + b)$  units. What is the area (in square units) of the square drawn on the diagonal of square B whose area is twice the area of A?

Difficulty : Moderate

Average Time : 87 Seconds

**Options :**

1.  $4(a + b)^2$
2.  $8(a + b)^2$
3.  $2(a + b)^2$
4.  $(a + b)^2$

**Solution :**

The correct answer is **option 3** i.e  $2(a + b)^2$

Understanding	Application

Area of square A = $(\text{diagonal})^2 / 2$	Area of square A = $(a + b)^2 / 2$
The area of square B is twice of A.	Area of square B = $(a + b)^2$
The side of square B will be the square root of the area of the square.	The side of square B = a + b
	The diagonal will be = $2(a + b)$
	The area will be = $2(a + b)^2$

**Question 64 :**

If  $12\cos^2 - 2\sin^2 + 3\cos = 3$ ,  $0 < \theta < 90^\circ$ , then what is the value of  $(\operatorname{cosec} \theta + \sec \theta) / (\tan \theta + \cot \theta)$  ?

**Difficulty : Moderate****Average Time : 73 Seconds****Options :**

1.  $(2 + \sqrt{3})/4$
2.  $(1 + 2\sqrt{2})/2$
3.  $(4 + \sqrt{3})/4$
4.  $(1 + \sqrt{3})/2$

**Solution :**

The correct answer is **option 4** i.e  $(1 + \sqrt{3})/2$

$$12\cos^2 - 2\sin^2 + 3\cos = 3$$

$$12\cos^2 - 2(1 - \cos^2) + 3\cos = 3$$

$$14\cos^2 + 3\cos - 5 = 0$$

We will now solve the given quadratic equation.

$$(\cos - 1/2)(\cos + 5/7)$$

As the angle is in the first quadrant so the cos will be positive.

$$\cos = 1 / 2 = 60^\circ$$

$$(\operatorname{cosec} + \sec) / (\tan + \cot)$$

$$\sin + \cos (1 + (3)) / (2)$$

### Question 65 :

Sides AB and DC of a cyclic quadrilateral ABCD are produced to meet at E, and sides AD and BC are produced to meet at F. If  $\angle ADC = 75^\circ$ , and  $\angle BEC = 52^\circ$ , then the difference between  $\angle BAD$  and  $\angle AFB$  is:

Difficulty : Moderate

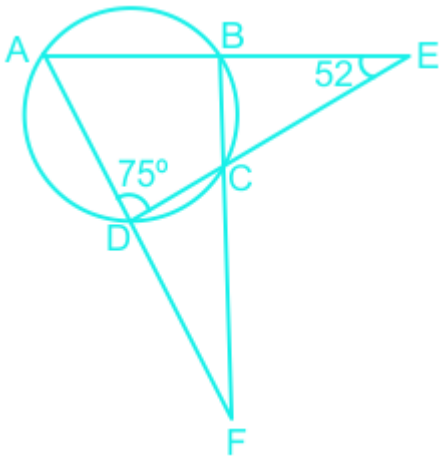
Average Time : 74 Seconds

### Options :

1.  $22^\circ$
2.  $21^\circ$
3.  $23^\circ$
4.  $31^\circ$

### Solution :

The correct answer is **option 4** i.e  $31^\circ$



In triangle ADE the sum of all the angles is  $180^\circ$

$$75^\circ + 52^\circ + \angle DAE = 180^\circ$$

$$\angle DAE = 53^\circ$$

In the cyclic quadrilateral, the sum of opposite angles is  $180^\circ$ .



$$ADE + ABC = 180^\circ$$

$$ABC = 105^\circ$$

In the triangle ABF

$$53^\circ + 105^\circ + AFB = 180^\circ$$

$$AFB = 22^\circ$$

The difference between BAD and AFB =  $53^\circ - 22^\circ = 31^\circ$

**Question 66 :**

A train takes hours less for a journey of 300 km, if its speed is increased by 20 km/h from its usual speed. How much time will it take to cover a distance of 192 km at its usual speed?

Difficulty : Moderate

Average Time : 73 Seconds

**Options :**

1. 6 hours
2. 2.4 hours
3. 4.8 hours
4. 3 hours

**Solution :**

The correct answer is **option 3** i.e **4.8 hours**

Understanding	Application
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We will use the concepts of time, speed, and distance, in addition to the concept of quadratic equations.

Let the original speed of the train be 'v'.

The difference in time will be

$$5/2 = 300(1/v - 1/v + 20)$$

$$v^2 + 20v - 2400 = 0$$

$$(v - 40)(v + 60)$$

$$v = 40\text{kmph}$$

The train will cover the distance of 192km in =  $192/40 = 4.8$  hours

**Question 67 :**

In an examination in which the full marks were 500, A scored 25% more marks than B, B scored 60% more marks than C and C scored 20% less marks than D. if A scored 80% marks, then the percentage of marks obtained by D is:

**Difficulty : Moderate****Average Time : 67 Seconds****Options :**

1. 60%
2. 54%
3. 65%
4. 50%

**Solution :**

The correct answer is **option 4** i.e **50%**

Let the marks scored by D be 'x'

The marks scored by C, B & A becomes  $0.8x$ ,  $1.28x$  &  $1.6x$

A scored 80% marks which are  $1.6x$

The score of D  $(x) = 80 / 1.6 = 50\%$

**Question 68 :**

Two chords AB and CD of a circle with centre O intersect each other at P. If  $\angle BOC = 70^\circ$  and  $\angle AOD = 100^\circ$ , then  $\angle APC$  is:

Difficulty : Moderate

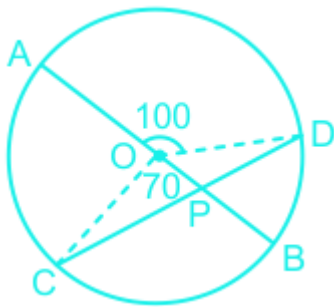
Average Time : 46 Seconds

**Options :**

1.  $95^\circ$
2.  $70^\circ$
3.  $65^\circ$
4.  $55^\circ$

**Solution :**

The correct answer is **option 1** i.e  $60^\circ$



In the diagram given that,

$$\angle AOD = 100^\circ$$

The sum of all angles subtended on a line is  $180^\circ$

$$\angle AOD + \angle BOD = 180^\circ$$

$$\angle BOD = 80^\circ$$

In the triangle, OCD the sum of angles is  $180^\circ$  where angles OCD & ODC are equal, let call them 'x'

$$\angle ODC + \angle OCD + \angle COD = 180^\circ$$

$$2x = 30^\circ$$



$$x = 15^\circ$$

In the triangle, OCP the sum of angles,

$$OCP + OPC + POC = 180^\circ$$

$$15^\circ + OPC + 70^\circ = 180^\circ$$

$$OPC = 95^\circ = APC$$

**Question 69 :**

Pipes A and B can fill a tank in 10 hours and 40 hours, respectively. C is an outlet pipe attached to the tank. If all the three pipes are opened simultaneously, it takes 80 minutes more time than what A and B together take to fill the tank. A and B are kept opened for 7 hours and then closed and C was opened. C will now empty the tank in:

**Difficulty : Moderate****Average Time : 100 Seconds****Options :**

1. 38.5 hours
2. 45.5 hours
3. 49 hours
4. 42 hours

**Solution :**

The correct answer is **option 3** i.e **49 hours**

We know that the efficiency is the reciprocal of the time taken

The efficiency of A & B be  $1/10$  &  $1/40$  units.

The efficiency when A & B work together =  $1/10 + 1/40 = 5/40 = 1/8$

The time taken by A & B together = 8 hours

If C is attached, where efficiency of C be 'x', then time taken is more 80 minutes which is =  $8 + 80/60 = 28/3$  hours

$$1/10 + 1/40 - 1/x = 1/28/3$$

$$1/x = 1/8 - 3/28$$

$$x = 56 \text{ hours}$$

When A & B are opened for 7 hours or filled  $7/8$  part the C will take time to empty will be

$$(7/8) \times 56 = 49 \text{ hours}$$

### Question 70 :

The average of 24 numbers is 56. The average of the first 10 numbers is 71.7 and that of the next 11 numbers is 42. The next three numbers (i.e., 22nd, 23rd and 24th ) are in the ratio  $1/2 : 1/3 : 5/12$ . What is the average of the 22nd and 24th numbers?

Difficulty : Moderate

Average Time : 72 Seconds

### Options :

1. 60.5
2. 58
3. 55
4. 49.5

### Solution :

The correct answer is **option 1** i.e **60.5**

Understanding	Application
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We will use the concepts of averages.

The sum of the first 10 terms will be

$$10 \times 71.7 = 717$$

The sum of the next 11 terms =  $11 \times 42 = 462$

The sum of 24 numbers are =  $24 \times 56 = 1344$

The sum of 22nd, 23rd & 24th numbers are =  $1344 - 717 - 462 = 165$

Let the 22nd, 23rd & 24th terms be  $x/2$ ,  $x/3$  &  $5x/12$

$$x/2 + x/3 + 5x/12 = 165$$

$$5x/4 = 165$$

$$x = 132$$

The average of 22nd & 24th term will be

$$(x/2 + 5x/12)/2$$

$$(66 + 55)/2 = 60.5$$

**Question 71 :**

A shopkeeper bought 80 kg of rice at a discount of 10%. Besides 1 kg rice was offered free to him on the purchase of every 20 kg rice. If he sells the rice at the marked price, his profit percentage will be:

**Difficulty : Moderate****Average Time : 73 Seconds****Options :**

1.  $16\frac{2}{3}\%$

2.  $16\frac{2}{3}\%$

$$16\frac{2}{3}\%$$

4.  $16\frac{2}{3}\%$

**Solution :**

The correct answer is **option 3** i.e.  $16\frac{2}{3}\%$

Let the price of 1kg of rice = Rs. 100

He bought 80kg of rice at Rs. 90 which costs =  $90 \times 80 =$  Rs. 7200

He has  $(80 + 4)$ kg of rice in which, he got 4kg free which he sold at Rs. 100

$$84 \times 100 = \text{Rs. } 8400$$

$$\text{Profit percentage} = [(8400 - 7200) / 7200] \times 100$$

$$[1 / 6] \times 100 = 16.67\% \text{ or } 16\frac{2}{3}\%$$

**Question 72 :**

The given table represents the exports (in Rs.crores) of four items A, B, C and D over a period of six years. Study the table and answer the question that follows. Item A B C D Year 2010 240 128 180 214 2011 250 134 244 282 2012 225 138 230 247 2013 370 169 340 224 2014 425 182 300 309 2015 400 209 306 275 The total exports of item A from 2012 to 2014 is what percentage less than the total exports of all the four items in 2015? (Correct to one decimal place)

**Difficulty : Moderate**

**Average Time : 85 Seconds**

**Options :**

1. 15.2%
2. 16.7%
3. 14.3%
4. 13.8%

**Solution :**

The correct answer is **option 3** i.e. **14.3%**

$$\text{The total exports of A from 2012 to 2014} = 225 + 370 + 425 = 1020$$

$$\text{The total exports in 2015} = 400 + 209 + 306 + 275 = 1190$$

The required percentage will be =  $[(1190 - 1020) / 1190] \times 100$

$[170 / 1190] \times 100$

14.28% or 14.3%

**Question 73 :**

The ratio of the ages of A and B, 8 years ago, was 2 : 3. Four years ago, the ratio of their ages was 5 : 7. What will be the ratio of their ages 8 years from now?

Difficulty : Moderate

Average Time : 44 Seconds

**Options :**

1. 4 : 5
2. 7 : 8
3. 3 : 4
4. 5 : 6

**Solution :**

The correct answer is **option 1** i.e **4 : 5**

Understanding	Application
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We will use the concepts of ratio to find the ages.

Let the ages of A & B before 8 years be  $2x$  &  $3x$ .

The ratio of ages before 4 years will be

$$(2x + 4) / (3x + 4) = 5 / 7$$

$$14x + 28 = 15x + 20$$

$$x = 8$$

The ages of A & B after 8 years will be

$$(2x + 16) / (3x + 16)$$

$$32 / 40 = 4 / 5$$

**Question 74 :**

Sudha sold an article to Renu for Rs.576 at a loss of 20%. Renu spent a sum of Rs.224 on its transportation and sold it to Raghu at a price which would have given Sudha a profit of 24%. The percentage of gain for Renu is:

**Difficulty : Moderate****Average Time : 63 Seconds****Options :**

1. 13.2%
2. 12.9%
3. 11.6%
4. 10.5%

**Solution :**

The correct answer is **option 3** i.e **11.6%**

Sudha sold an article to Renu for = Rs. 576

Cost price of the article for Sudha = Rs.  $576 \times (100 / 80) =$  Rs. 720

Final cost price of the article for Renu =  $576 + 224 =$  Rs. 800





Profit gain on the article for Renu = Rs.  $720 \times (124 / 100) = \text{Rs. } 892.8$

Profit percentage on the article for Renu =  $(92.8 / 800) \times 100 = 11.6\%$

**Question 75 :**

In ABC,  $C = 90^\circ$ ,  $AC = 5 \text{ cm}$  and  $BC = 12 \text{ cm}$ . The bisector of A meets BC at D. What is the length of AD?

**Difficulty : Moderate****Average Time : 49 Seconds****Options :**

1.  $2(13) \text{ cm}$
2.  $(5(13))/(3) \text{ cm}$
3.  $2/3 (13) \text{ cm}$
4.  $4/3 (13) \text{ cm}$

**Solution :**

The correct answer is **option 2** i.e  $(5(13))/(3) \text{ cm}$

The triangle ABC is the right-angled triangle, the Pythagoras theorem applies to it which is as

$$AC^2 + BC^2 = AB^2$$

$$(5)^2 + (12)^2$$

$$AB = 13 \text{ cm}$$

By the angle bisector theorem

$$AB/BD = AC/CD$$

$$13/BD = 5/CD$$

Let BD equals 'x'

$$13/x = 5/(12 - x)$$

$$x = 26/3 \text{ cm}$$

$$CD = 12 - 26/3 = 10/3 \text{ cm}$$

So,

$$AD^2 = AC^2 + CD^2$$

$$AD = (5(13))/(3) \text{ cm}$$



### Question 76 :

In January 2020, B. Sai Deepak set a Guinness World Record for most side lunges in 60 seconds. How many lunges did he do?

Difficulty : Moderate

Average Time : 64 Seconds

### Options :

1. 59
2. 30
3. 40
4. 50

### Solution :

The correct answer is **option 1** i.e **59**.

- In January 2020, B. Sai Deepak set a Guinness World Record for 59 side lunges in 60 seconds which is his fourth overall Guinness World Records.
- The previous record was held by Pakistan national Irfan Mehsood.

### Question 77 :

Which of the following rivers flows through Tiruttani a famous pilgrimage place of South India?

Difficulty : Moderate

Average Time : 45 Seconds

### Options :

1. Vaigai
2. Palar
3. Kaveri
4. Nandi

### Solution :

The correct answer is **option 4** i.e. **Nandi**.



- Nandi river flows through Tiruttani a famous pilgrimage place of South India.
- Tiruttani is a town located in Tamil Nadu.
- This city is famous for the Temple of Tiruthani Murugan, one of the Arupadaiveedu, dedicated to Kartikeya.

### Question 78 :

In terms of area, which state has the largest forest cover in India?

Difficulty : Moderate

Average Time : 49 Seconds

### Options :

1. Madhya Pradesh
2. Kerala
3. Maharashtra
4. Odisha

### Solution :

The correct answer is **option 1** i.e. **Madhya Pradesh**.

- The state of Madhya Pradesh has the largest forest cover in India.
- In terms of percentage of forest cover Mizoram, at 85.41 percent, is the most forest-rich state.

### Question 79 :

Among the options provided, which National Park is the largest protected area within the Eastern Himalayan sub-region?

Difficulty : Moderate

Average Time : 42 Seconds

### Options :

1. Bandipur National Park
2. Keibul Lamjao National Park
3. Dudhwa National Park
4. Namdapha National Park

### Solution :

The correct answer is **option 4** i.e. **Namdapha National Park**.



**Namdapha National Park** is the largest protected area in the Eastern Himalayan biodiversity hotspot and is located in Arunachal Pradesh in Northeast India.

- It is also the largest national park in India in terms of area.
- It is located in the Eastern Himalayan sub-region and is recognized as one of the richest areas in biodiversity in India.
- The park harbours the northernmost lowland evergreen rainforests in the world at 27 N latitude.

**Question 80 :**

VISHWAS, which is a major e-governance initiative launched by the government in January 2020, is the acronym for which of the following?

**Difficulty : Moderate****Average Time : 59 Seconds****Options :**

1. Video Interface and State Wide Advanced Security
2. Video Integration and System Wide Advanced Security
3. Video Integration and State Wide Advanced System
4. Video Integration and State Wide Advanced Security

**Solution :**

The correct answer is **option 4** i.e **Video Integration and State Wide Advanced Security**.

- Vishwas is the acronym for Video Integration and State Wide Advanced Security.
- First, of its kind project in the country, VISHWAS is a major e-governance initiative.
- The project aims at improving Law and Order Management, Proactive traffic management and control, Crime detection through video analytics and Post-incident Investigation and video forensics.

**Question 81 :**

G. Babita Rayudu took charge as an Executive Director for which of the following organisations in January 2020?



Difficulty : Moderate

Average Time : 61 Seconds

Options :

1. Small Industries Development Bank of India
2. Bombay Stock Exchange
3. Insurance Regulatory and Development Authority of India
4. The Securities and Exchange Board of India

Solution :

The correct answer is **option 4** i.e **The Securities and Exchange Board of India**.

- G. Babita Rayudu took charge as an Executive Director for The Securities and Exchange Board of India (SEBI) in January 2020.
- It is the regulator of the Indian government-owned securities and commodity market.

Question 82 :

Pongal festival is celebrated for four days in Tamil Nadu. What is the fourth day of Pongal called?

Difficulty : Moderate

Average Time : 54 Seconds

Options :

1. Bhogi Pongal
2. Kaanum Pongal
3. Thai Pongal
4. Mattu Pongal

Solution :

The correct answer is **option 2** i.e **Kaanum Pongal**.



- The fourth and the last day of Pongal is known as Kaanum Pongal. In some parts of Tamil Nadu, Kaanum Pongal is also known as Karinaal.
- Sun God is worshipped on the day and people offer food along with Sarkarai Pongal.
- Kaanum Pongal is the time for people to pay visits to their loved ones and faraway acquaintances.

**Question 83 :**

The 23rd National Youth Festival (NYF) 2020 was celebrated in Lucknow to commemorate the birth anniversary of \_\_\_\_\_.

**Difficulty : Moderate****Average Time : 55 Seconds****Options :**

1. Swami Vivekananda
2. Jawaharlal Nehru
3. Sardar Vallabhbhai Patel
4. Mahatma Gandhi

**Solution :**

The correct answer is **option 1** i.e **Swami Vivekananda**.

- On the birth anniversary of Swami Vivekananda, 23rd National Youth Festival 2020 started with a grand inauguration ceremony in Lucknow today.
- Country's Prime Minister Narendra Modi in his video message appealed youth of the country to try only to purchase local products by 2020 which will help our countrymen.

**Question 84 :**



What was the theme of the 107th Indian Science Congress held in Bengaluru?

Difficulty : Moderate

Average Time : 51 Seconds

Options :

1. Science and Technology: Rural Development
2. Science and Technology for National Development
3. Reaching the Unreached through Science and Technology
4. Future India : Science and Technology

Solution :

The correct answer is **option 1** i.e **Science and Technology: Rural Development**.

- The 107th Indian Science Congress (ISC) began on 3 January 2020 and will go on till Tuesday, 7 January 2020.
- The summit will be inaugurated by Prime Minister Narendra Modi and the theme of the event is "Science and Technology for Rural Development".

Question 85 :

In which year was the Currency Building in the BBD Bagh or Dalhousie area of Kolkata constructed?

Difficulty : Moderate

Average Time : 55 Seconds

Options :

1. 1833
2. 1910
3. 1900
4. 1850

Solution :

The correct answer is **option 1** i.e **1833**.



- The Currency Building is an early 19th-century building in the B. B. D. Bagh (Dalhousie Square) central business district of Kolkata in West Bengal, India.
- The building was originally built in 1833 to house the Calcutta branch of the Agra Bank.

**Question 86 :**

Which dynasty built the Pancha Rathas of Mahabalipuram?

Difficulty : Moderate

Average Time : 45 Seconds

**Options :**

1. Pallava
2. Chera
3. Satavahana
4. Chola

**Solution :**

The correct answer is **option 1** i.e **Pallava**.

- Pancha Rathas (also known as Five Rathas or Pandava Rathas) is a monument complex at Mahabalipuram, on the Coromandel Coast of the Bay of Bengal, in the Kancheepuram district of the state of Tamil Nadu, India.
- According to a plaque displayed at the site by the ASI, the Pallava dynasty had planned the structures as models of chariots in rock based on prototypes of ancient Rathas built in wood.
- The Pancha Rathas were carved during the reign of King Mahendravarman I and his son Narasimhavarman I.

**Question 87 :**



The Indian Railways has integrated its helpline numbers into a single number. What is the number?

Difficulty : Moderate

Average Time : 61 Seconds

Options :

1. 150
2. 145
3. 139
4. 160

Solution :

The correct answer is **option 3** i.e **139**.

- The Indian Railways merged railway security helpline number 182 in to 'rail madad' single helpline number 139 for the convenience of passengers.
- This integration of both security helpline numbers into single helpline number 139 will help the passengers to make all inquiries and lodging

Question 88 :

The researchers of which academic institution employed the nanoscale phenomenon called 'Electrokinetic streaming potential' to harvest energy from flowing water on a small scale like water flowing through household water taps?

Difficulty : Moderate

Average Time : 52 Seconds

Options :

1. IIT Guwahati
2. IIT Delhi
3. IIT Madras
4. IIT Bombay

Solution :

The correct answer is **option 1** i.e **IIT Guwahati**.

- The researchers of IIT Guwahati employed a nanoscale phenomenon called "electrokinetic streaming potential" to harvest energy from flowing water on a small scale like water flowing through household water taps.

### Question 89 :

Chiroprody is a branch of science related to which part of the body?

Difficulty : Moderate

Average Time : 46 Seconds

### Options :

1. Kidney
2. Liver
3. Feet
4. Lungs

### Solution :

The correct answer is **option 3** i.e **Feet**.

- Chiroprody is a branch of medical science that involves the assessment and management of foot and lower limb disorders.
- A **chiroprodist** is a primary care professional practising podiatric medicine in Ontario that specializes in the assessment, management and prevention of diseases and disorders of the foot.

### Question 90 :

Name the law in Physics which states that equal volume of all gases under the same conditions of temperature and pressure contain an equal number of molecules.

Difficulty : Moderate

Average Time : 54 Seconds

Options :

1. Ohm's Law
2. Boyles's Law
3. Avogadro's Law
4. Charles's Law

Solution :

The correct answer is **option 3** i.e. **Avogadro's Law**.

- Avogadro's law states that under the same conditions of temperature and pressure, equal volumes of different gases contain an equal number of molecules.
- This empirical relation can be derived from the kinetic theory of gases under the assumption of a perfect (ideal) gas.
- The law is approximately valid for real gases at sufficiently low pressures and high temperatures.

Question 91 :

In which of the following locations was the Quit India Movement launched by Mahatma Gandhi in 1942?

Difficulty : Moderate

Average Time : 58 Seconds

Options :

1. Pragati Maidan
2. August Kranti Maidan
3. Shivaji Park
4. Jallianwala Bagh

Solution :

The correct answer is **Option 2** i.e **August Kranti Maidan**.



On 8 August 1942 at the All-India Congress Committee session in Bombay, Mohandas Karamchand Gandhi launched the 'Quit India' movement.

- Quit India Movement was launched by Mahatma Gandhi in 1942 in August Kranti Maidan.

### Question 92 :

The famous 11-day-long 'Dhanu Jatra', considered the largest open-air theatre in the world is celebrated in which state?

Difficulty : Moderate

Average Time : 46 Seconds

### Options :

1. Meghalaya
2. Odisha
3. Manipur
4. Assam

### Solution :

The correct answer is **option 2** i.e. **Odisha**.

- Dhanu Jatra or Dhanu Yatra is an annual drama-based open-air theatrical performance celebrated in Bargarh, Odisha.
- Spread across an 8 km radius area around the Bargarh municipality, it is the world's largest open-air theatre, one that finds a mention in the Guinness Book of World Records.

### Question 93 :

Ishwar Sharma has been honoured with the Global Child Prodigy Award 2020. What is this award associated with?

Difficulty : Moderate

Average Time : 46 Seconds

### Options :

1. Sports
2. Yoga
3. Science
4. Literature

### Solution :

The correct answer is **option 2** i.e **Yoga**.



- Ishwar Sharma was Nominated for the top 100 child prodigy across the globe for his outstanding contribution & achievement in the field of Yoga, has also grabbed the title of the "British Indian of the Year" under-11 in the UK national yoga Day.
- He has been conferred with Global Child Prodigy Awards 2020 for his achievements in Yoga and for being one among the top 100 child prodigies of the world.

### Question 94 :

Jasprit Bumrah has been selected to receive which of the following awards for his performance in international cricket in the 2018-19 season?

Difficulty : Moderate

Average Time : 59 Seconds

### Options :

1. C.K. Nayudu
2. Madhavrao Scindia
3. M.A. Chidambaram
4. Polly Umrigar

### Solution :

The correct answer is **option 4** i.e **Polly Umrigar**.

- The BCCI today announced that India's pace spearhead Jasprit Bumrah will receive the prestigious Polly Umrigar Award for his super performance in international cricket in the 2018-19 season.
- One of the BCCI Awards is the Polly Umrigar Award for International Cricket of the Year, given to Indian cricketers for outstanding performance in international cricket.

### Question 95 :

What is the colour of the light emitted by the Sun?

Difficulty : Moderate

Average Time : 53 Seconds

### Options :

1. Red
2. Yellow
3. White
4. Orange

### Solution :

The correct answer is **option 3** i.e **White**.

- The colour of the sun is white.
- The sun emits all colours of the rainbow more or less evenly and in physics, we call this combination "white". That is why we can see so many different colors in the natural world under the illumination of sunlight.

### Question 96 :

As per the government rules, how much percentage of advance tax needs to be paid by 15th June by an individual who is liable to pay advance tax?



Difficulty : Moderate

Average Time : 53 Seconds

Options :

1. 15%
2. 30%
3. 25%
4. 10%

Solution :

The correct answer is **option 1** i.e **15%**.

- Advance tax means income tax should be paid in advance instead of lump sum payment at year-end. It is also known as pay as you earn tax.
- As per the government rules, 15 percentage of advance tax needs to be paid by 15th June by an individual who is liable to pay advance tax.

Question 97 :

In which year was the Nahargarh Fort in Jaipur built by Maharaja Sawai Jai Singh II?

Difficulty : Moderate

Average Time : 51 Seconds

Options :

1. 1734
2. 1800
3. 1805
4. 1780

Solution :

The correct answer is **option 1** i.e **1734**.



- Nahargarh Fort stands on the edge of the Aravalli Hills, overlooking the city of Jaipur in the Indian state of Rajasthan.
- Along with Amer Fort and Jaigarh Fort, Nahargarh once formed a strong defence ring for the city. The fort was originally named Sudarshangarh, but it became known as Nahargarh, which means 'abode of tigers.
- Built mainly in 1734 by Maharaja Sawai Jai Singh, the king of Jaipur, the fort was constructed as a place of retreat on the summit of the ridge above the city.

### Question 98 :

The police of which state was honoured with the President's Colours award in December 2019?

Difficulty : Moderate

Average Time : 59 Seconds

### Options :

1. Gujarat
2. Kerala
3. Tamil Nadu
4. Maharashtra

### Solution :

The correct answer is **option 1** i.e **Gujarat**.



- Gujarat Police was honoured with President's Colour for its services and courage.
- This honour is the biggest honour given by the President to the Armed Forces, Para Military Forces and State Police Forces.
- On March 6, 2019, the Gujarat Police received official information that the President has approved the Gujarat Police to give the President's colours.

### Question 99 :

Which district has been awarded the Plastic Waste Management Award -2020 for being the best district of India in the plastic waste management category during Swachhta Hi Seva 2019?

Difficulty : Moderate

Average Time : 57 Seconds

### Options :

1. Jorhat
2. Dibrugarh
3. Hojai
4. Majuli

### Solution :

The correct answer is **option 2** i.e **Dibrugarh**.



- 'Swachhata' Pledge was administered to railway employees on the first day of the "Swachhata Hi Sewa" campaign. It was followed by a "Shramdaan" programme where the participants embarked upon cleaning Railway premises.
- Dibrugarh has been awarded the Plastic Waste Management Award - 2020 for being the best district of India in the plastic waste management category during Swachhta Hi Seva 2019.

**Question 100 :**

Which is the first Indian company to hit the Rs.10 lakh crore mark in market capitalisation?

**Difficulty : Moderate****Average Time : 56 Seconds****Options :**

1. Reliance Industries
2. Tata Consultancy Services
3. HDFC Bank
4. ICICI Bank

**Solution :**

The correct answer is **option 1** i.e **Reliance Industries**.

- Mukesh Ambani-led Reliance Industries Ltd (RIL) became the first Indian company to hit the ₹10 lakh crore milestone in the market cap after its shares rose to a record high of ₹1,581 apiece.

## Ssc Cgl Tier I Previous Year Question Paper

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## Analysis

The analysis of Ssc Cgl Tier I Previous Year Question Paper held on 2020-03-05 in the Morning exam is as follows:

1. 100 questions were moderate.
2. The safe score is 140 marks.
3. 25 questions were asked from English Language, 25 questions were asked from Quantitative Aptitude, 25 questions were asked from Logical Reasoning and 25 questions were asked from General Awareness
4. 25 questions should have been skipped if you were short of time.

## Ssc Cgl Tier I Previous Year Question Paper Topic Wise Weightage

### English Language

1. Cloze Test - 6
2. Spotting Error - 2
3. Parajumbles - 2
4. Idioms - 1
5. One Word Substitution - 2
6. Narration - 1
7. Voice - 1
8. Sentence Improvement - 2
9. Synonym - 2
10. Antonym - 2
11. Filler (Vocab) - 1
12. Filler (Grammar) - 1
13. Incorrectly Spelt - 2
14. Incorrectly Spelt - 2

### Quantitative Aptitude

1. Geometry - 4
2. Data Sufficiency - 21

### Logical Reasoning

1. Coding Decoding - 2

- Analogy - 4
- 3. Classification - 3
- 4. Missing Characters - 1
- 5. Blood Relations - 1
- 6. Syllogism - 1
- 7. Venn Diagrams - 1
- 8. Dictionary Based - 1
- 9. Figure Based - 1
- 10. Matrix - 1
- 11. Paper-cutting, Folding, Punching - 1
- 12. Mirrors And Water Reflection - 1
- 13. Configuration, Fitting Pieces, Odd Pieces - 2
- 14. Series - 2
- 15. Mathematical Reasoning - 2
- 16. Cubes And Dice - 1

## General Awareness

- 1. History - 3
- 2. Science - 3
- 3. Geography - 2
- 4. GK Misc - 3
- 5. Current Affairs - 14

# Ssc Cgl Tier I Previous Year Question Paper Tips and Tricks



1. Try to solve Ssc Cgl Tier I Previous Year Question Paper without taking any help from the solutions.
2. Ssc Cgl Tier I Previous Year Question Paper require proper usage of concept so firstly read the question thoroughly and then use the right concept.
3. In case you're not able to solve the question in less than 30 seconds in the exam then you should skip the question and move to the next question.

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## Further Guidance on Ssc Cgl Tier I Previous Year Question Paper

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### About Neetu Mam

Neetu Mam is primarily passionate for the English language and teaching from the last 20 years however for the Ssc Cgl Tier I Previous Year Question Paper. She has guided her team to provide the best explanation for the question.